

ROTH ENVIRONMENTAL, LLC

January 27, 2014

Tucker Smith
U.S. Army Corps of Engineers
Regulatory Branch
803 Front Street
Norfolk, VA 23510

RE: Centerville Property
Project No. 06-006

Dear Mr. Smith:

On behalf of our client, Tri-City Properties, LLC (Attn.: Michael Gelardi, 3333 Virginia Beach Boulevard, Suite 24, Virginia Beach, Virginia 23452) Roth Environmental, LLC is requesting confirmation of the wetland delineation within the study area identified on the referenced project. The Centerville property is located on the eastern side of Centerville Turnpike in Chesapeake, Virginia. The site is specifically located 1,700 feet southeast of the intersection of Mill Pond Road and Centerville Turnpike. The study area is approximately 90 acres.

The Centerville Property is predominantly vegetated by mixed deciduous hardwood forest. The site contains numerous drainage ditches and two stormwater management ponds. The overall regional slope of the area is to the east toward Stumpy Lake. A main ditch is located through the southern portion of the site. This ditch flows from west to east. It provides drainage from upslope properties and channelized flow that is directed to it from a large portion of Centerville Turnpike.

Prior to field investigations, research on the site was performed using aerial photographs, USGS Topographic Maps, GIS mapping, the NRCS Soils survey, and the previously confirmed wetland delineation. The site is almost entirely mapped by the NRCS as containing Acredale soils. These soils are listed as poorly drained by the NRCS when no ditching or other modifications have been made.

At its highest elevation, the property is approximately 12 feet above mean sea level. This is found on the western portion of the study area. As the property falls to the east, it drops in elevation to approximately 6 feet above mean sea level. As stated before, the site drains from west to east.

Roth Environmental, LLC has performed a wetland delineation on the site utilizing the Routine Determination Method as outlined in the *1987 U.S. Army Corps of Engineers Wetlands Delineation Manual (TR Y-87-1)*. This manual was used as it was the valid wetland delineation manual in use at the time Tri-City Associates submitted their Joint Permit Application. As the applicant has continued work with the Norfolk District to provide additional information to the

originally submitted application, this manual should still apply. This practice has been done for other applicants in the permit process and should extend to Tri-City Associates.

The site is divided into two habitat types. These habitats consist of mixed deciduous hardwood forested uplands and forested nontidal wetlands. The forested uplands are found along the northern portion of the project site. There are also uplands found in pockets on the eastern portion of the study area. The upland areas are typically dominated by facultative and dryer species such as loblolly pine (*Pinus taeda*), red maple (*Acer rubrum*), sweet gum (*Liquidambar styraciflua*), hop hornbeam (*Ostrya virginiana*), American beech (*Fagus grandifolia*), paw paw (*Asimina triloba*), shagbark hickory (*Carya ovata*), giant cane (*Arundinaria gigantea*), tulip tree (*Liriodendron tulipifera*), honeysuckle (*Lonicera japonica*), grape (*Vitis rotundifolia*), and greenbrier (*Smilax rotundifolia*). Soils in the upland areas, as they are throughout much of the developed portions of Chesapeake, are low chroma mottled sandy clay loams (10YR 4/2 – Munsell Soil Color Charts). No indicators of hydrology were observed in the upland areas.

The forested nontidal wetlands comprise the remainder of the site. These areas are vegetated by a dominance of facultative and wetter species such as red maple, sweet gum, green ash (*Fraxinus pennsylvanica*), swamp chestnut oak (*Quercus michauxii*), ironwood (*Carpinus caroliniana*), willow oak (*Quercus phellos*), water oak (*Quercus nigra*), giant cane, climbing hydrangea (*Decumaria barbara*), longleaf spikegrass (*Chasmanthium sessilifolium*), southern waxy sedge (*Carex glaucescens*), lizard's tail (*Saururus cernuus*), and false nettle (*Boehmeria cylindrica*). Soils in the wetland areas are also low chroma mottled sandy clay loams (10YR 4/1). Indicators of hydrology that were observed included inundation to three inches, saturated soils in the upper 12 inches of the soil surface, drainage patterns in wetlands, water stained leaves, and the FAC-Neutral test. Other indicators that were documented included the presence of sphagnum moss and depressional areas in the landscape.

In general, the most recent wetland delineation identifies a wetland/upland boundary that is similar in shape and size to the originally confirmed wetland delineation performed in 2006. For the most part, the wetland limit stayed in its original location. There were areas where the line was adjusted to account for new indicators or newly growing vegetation. This is reflected in the new wetland delineation drawing.

The area surround the Centerville Property includes undeveloped land, a school with athletic fields, a stable, a large subdivision to the north (with a nearly identical landscape position to the Centerville Property), Stumpy Lake, and Centerville Turnpike.

Based on our field calculations, the study area contains approximately 30 acres of uplands and 60 acres of nontidal forested wetlands.

Included with this report are a wetland delineation drawing, a vicinity map, data collection forms, the NRCS soils map, and the NWI map. At this time, we are requesting confirmation of the wetland delineation.

Please contact me at 814-1048 or rothenv@cox.net to schedule a confirmation site visit at your earliest convenience.

Sincerely,
ROTH ENVIRONMENTAL, LLC



Matthew Roth, P.W.S.
President

Enclosures

cc: Mike Gelardi

Macintosh HD:Users:Roth:Documents:Roth Environmental, LLC:Projects:2006:06-006.centerville:2013 Wetland
Delineation:2013.12.05.smith.wetland delineation.docx

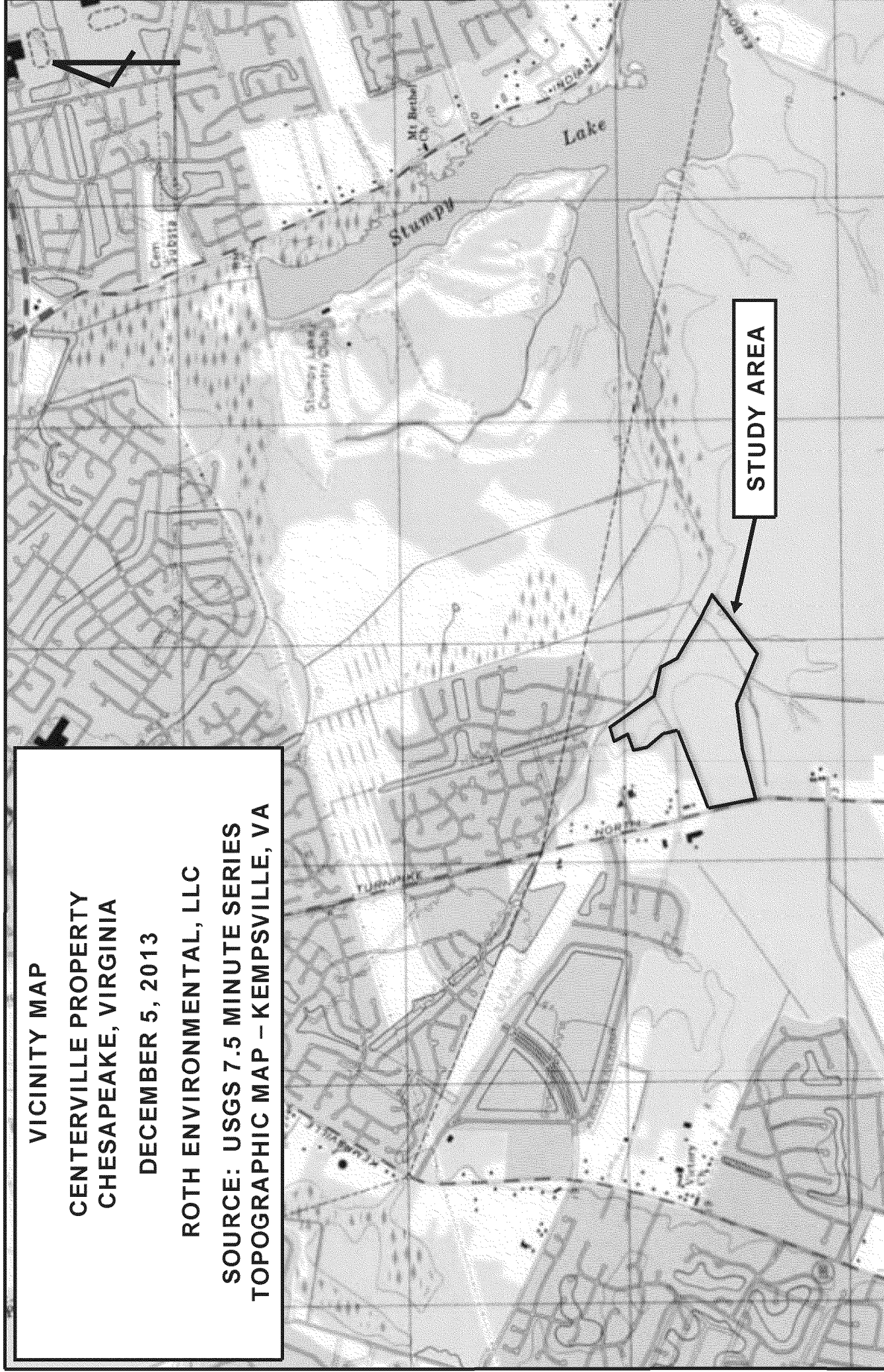
VICINITY MAP

**CENTERVILLE PROPERTY
CHESAPEAKE, VIRGINIA**

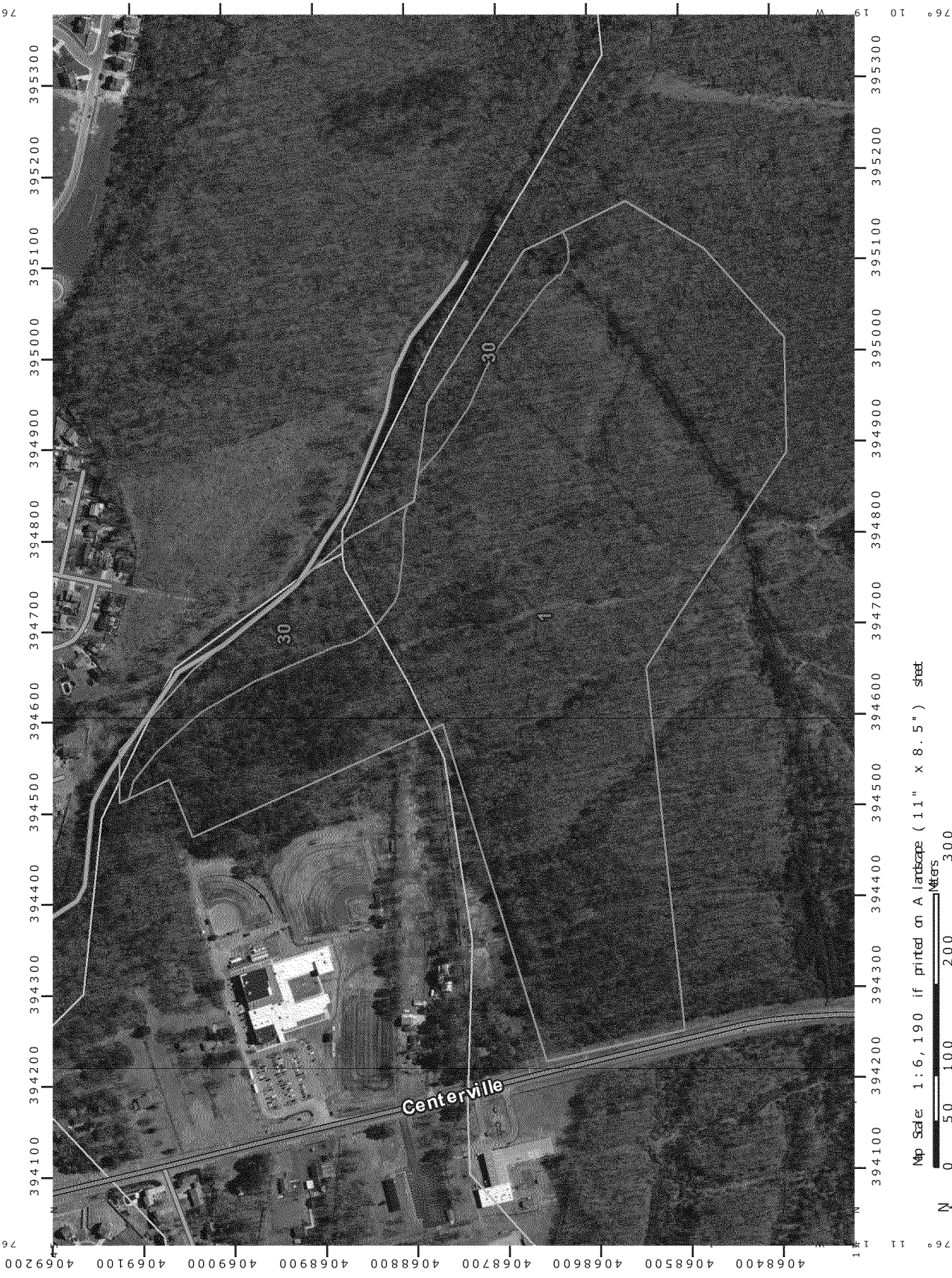
DECEMBER 5, 2013

ROTH ENVIRONMENTAL, LLC

**SOURCE: USGS 7.5 MINUTE SERIES
TOPOGRAPHIC MAP – KEMPSVILLE, VA**



Soil Map—Chesapeake City, Virginia (CENTERVILLE PROPERTY)



Map Scale: 1:6,190 if printed on A landscape (11" x 8.5") sheet

Map projection: Web Mercator Corner coordinates: WGS 84 UTM Zone 18 N WGS 84

0 300 600 1200 1800 Feet

0 50 100 200 300 Meters

MAP LEGEND

Area of Interest (AQ)		Soil Area
Soils		Stony Spot
		Very Stony Spot
		Wet Spot
		Other
		Special Line Features

MAP INFORMATION

The soil surveys that comprise your AQ were mapped at 1 : 1 2 , 0 0

Warning: Soil Map may not be valid at this scale.

Enlarge ment of maps beyond the scale of mapping can cause mis understanding of the detail of mapping and accuracy of soil placement. The maps do not show the small areas of soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG 3 8 5 7)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA NRCS certified data as the version date(s) listed below

Soil Survey Area: Chesapeake City, Virginia
Survey Area Data: Version 1 0 , Jan 1 1 , 2 0 1 0

Soil map units are labeled (as space allows) of print scales 1 : 5 or larger.

Date(s) aerial images were photographed: Feb 1 5 , 2 0 1 1 —Apr 2 0 1 1

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifts in map unit boundaries may be evident.

Map Unit Legend

Chesapeake City, Virginia (VA550)			
Map Unit Symbol	Map Unit Name	Acres in ACI	Percent of ACI
1	Acredale silt loam 0 to 1 percent slopes	67.2	88.8 %
30	Nawney silt loam 0 to 1 percent slopes, frequently flooded	8.5	11.2 %
Totals for Area of Interest		75.6	100.0 %



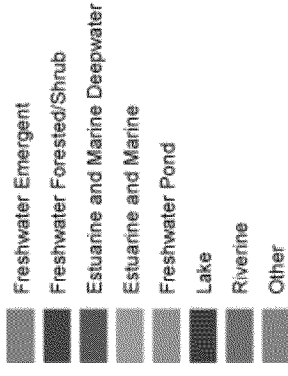
U.S. Fish and Wildlife Service

National Wetlands Inventory

Centerville
Property

Aug 19, 2013

Wetlands



This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS1</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Pinus taeda</u>	<u>C</u>	<u>FAC-</u>	9. <u>Pinus taeda</u>	<u>H</u>	<u>FAC-</u>
2. <u>Acer rubrum</u>	<u>C</u>	<u>FAC</u>	10. <u>Parthenocissus quinquefolia</u>	<u>V</u>	<u>FACU</u>
3. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	11. <u>Lonicera japonica</u>	<u>V</u>	<u>FAC-</u>
4. <u>Ostrya virginiana</u>	<u>S</u>	<u>FACU-</u>	12. _____	_____	_____
5. <u>Fraxinus pennsylvanica</u>	<u>Sh</u>	<u>FACW</u>	13. _____	_____	_____
6. <u>Carya ovata</u>	<u>Sh</u>	<u>FACU-</u>	14. _____	_____	_____
7. <u>Quercus marilandica</u>	<u>Sh</u>	<u>UPL</u>	15. _____	_____	_____
8. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 36%

Remarks: _____

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12" _____ Water-Stained Leaves _____ Local Soil Survey Data _____ FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	
Remarks: <u>No observed hydrologic indicators</u>	

SOILS

DS 1

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly drained</u>	
Taxonomy (Subgroup): <u>Typic Ochragualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
Depth (inches)	Horizon				
0-4		10 YR 3/2	none		Sandy clay loam
4-14+		10 YR 4/1	10 YR 6/1	5	Sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 2</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer rubrum</u>	<u>C</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Pinus taeda</u>	<u>C</u>	<u>FAC-</u>	10. _____	_____	_____
3. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACU+</u>	12. _____	_____	_____
5. <u>Anundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	13. _____	_____	_____
6. <u>Osmunda regalis</u>	<u>H</u>	<u>OBL</u>	14. _____	_____	_____
7. <u>Parthenocissus quinquefolia</u>	<u>V</u>	<u>FACU</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 57%

Remarks: _____

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" <input checked="" type="checkbox"/> Water-Stained Leaves ___ Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: _____

SOILS

DS 2

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1		10YR 3/2	none		Sandy loam
1-4		10YR 4/1	none		Sandy loam
4-12+		10YR 4/1	10YR 5/4	5	sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS3</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Pinus taeda</u>	<u>C</u>	<u>FAC-</u>	9. <u>Decumaria barbara</u>	<u>V</u>	<u>OBL</u>
2. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Nyssa sylvatica</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Asimina triloba</u>	<u>SH</u>	<u>FACW+</u>	13. _____	_____	_____
6. <u>Ulmus americana</u>	<u>H</u>	<u>FACW+</u>	14. _____	_____	_____
7. <u>Osmunda regalis</u>	<u>H</u>	<u>OBL</u>	15. _____	_____	_____
8. <u>Parthenocissus quinquefolia</u>	<u>V</u>	<u>FACU</u>	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). <u>16.7%</u>					
Remarks:					

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" <input checked="" type="checkbox"/> Water-Stained Leaves <input checked="" type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	
Remarks: <u>Depressional area</u>	

SOILS

DS 3

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1		10YR 3/2	none		Sandy loam
1-4		10YR 4/1	none		Sandy clay
4-14+		10YR 4/1	10YR 5/4	5	clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.) 	Community ID: _____ Transect ID: _____ Plot ID: <u>DS4</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Rhus tyecta</u>	<u>C</u>	<u>FAC-</u>	9. _____	_____	_____
2. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Acer rubrum</u>	<u>C</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACU+</u>	13. _____	_____	_____
6. <u>Quercus marilandica</u>	<u>Sh</u>	<u>UPL</u>	14. _____	_____	_____
7. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 43%

Remarks: _____

HYDROLOGY

<p>___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other <input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland hydrology Indicators:</p> <p>Primary Indicators:</p> <p>___ Inundated</p> <p>___ Saturated in Upper 12 Inches</p> <p>___ Water Marks</p> <p>___ Drift Lines</p> <p>___ Sediment Deposits</p> <p>___ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>___ Oxidized Root Channels in Upper 12"</p> <p>___ Water-Stained Leaves</p> <p>___ Local Soil Survey Data</p> <p>___ FAC-Neutral Test</p> <p>___ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Remarks: <u>No observed Hydrologic Indicators</u></p>

SOILS

DS 4

Map Unit Name (Series and Phase): <u>Arcedale Silt Loam</u>		Drainage Class: <u>Poorly drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1		10YR 3/2	none		Sandy loam
1-4		10YR 4/1	none		sandy clay loam
4-14+		10YR 4/2	10YR 5/4	5	sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 5</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	9. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>
2. <u>Carpinus Caroliniana</u>	<u>S</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACW+</u>	12. _____	_____	_____
5. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	13. _____	_____	_____
6. <u>Woodwardia areolata</u>	<u>H</u>	<u>FACW+</u>	14. _____	_____	_____
7. <u>Attyrium Blix-femina</u>	<u>H</u>	<u>FAC</u>	15. _____	_____	_____
8. <u>Parthenocissus quinquefolia</u>	<u>V</u>	<u>FACU</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 67%

Remarks: _____

HYDROLOGY

<p>___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other <input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland hydrology Indicators:</p> <p>Primary Indicators:</p> <p>___ Inundated</p> <p>___ Saturated in Upper 12 Inches</p> <p>___ Water Marks</p> <p>___ Drift Lines</p> <p>___ Sediment Deposits</p> <p>___ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>___ Oxidized Root Channels in Upper 12"</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p><input checked="" type="checkbox"/> Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p>___ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Remarks: _____</p>

SOILS

DS 5

Map Unit Name
(Series and Phase): Arcedale Silt LoamDrainage Class: Poorly drainedTaxonomy (Subgroup): Typic OchraqualfsField Observations
Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/2	none		sandy loam
3-12+		10YR 4/2	10YR 5/4	5	sandy clay loam

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)
 Wetland Hydrology Present? ☒ Yes ☐ No
 Hydric Soils Present? ☒ Yes ☐ No

(Circle)
 Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <u>Yes</u> <u>No</u> Is the site significantly disturbed (Atypical Situation)? <u>Yes</u> <u>No</u> Is the area a potential Problem Area? <u>Yes</u> <u>No</u> (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 6</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Pinus taeda</u>	<u>C</u>	<u>FAC-</u>	9. _____	_____	_____
2. <u>Liriodendron tulipifera</u>	<u>C</u>	<u>FACU</u>	10. _____	_____	_____
3. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Carpinus caroliniana</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACU</u>	13. _____	_____	_____
6. <u>Lonicera japonica</u>	<u>V</u>	<u>FAC-</u>	14. _____	_____	_____
7. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 29%

Remarks: _____

HYDROLOGY

<p>___ Recorded Data (Describe in Remarks):</p> <p>___ Stream, Lake, or Tide Gauge</p> <p>___ Aerial Photographs</p> <p>___ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland hydrology Indicators:</p> <p>Primary Indicators:</p> <p>___ Inundated</p> <p>___ Saturated in Upper 12 Inches</p> <p>___ Water Marks</p> <p>___ Drift Lines</p> <p>___ Sediment Deposits</p> <p>___ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>___ Oxidized Root Channels in Upper 12"</p> <p>___ Water-Stained Leaves</p> <p>___ Local Soil Survey Data</p> <p>___ FAC-Neutral Test</p> <p>___ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Remarks: <u>No observed Hydrologic Indicators</u></p>

SOILS

DS 6

Map Unit Name
(Series and Phase): Acredale Silt Loam

Drainage Class: Poorly drained
Field Observations

Taxonomy (Subgroup): Typic Ochraqualfs

Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/2	none		Sandy loam
3-14+		10YR 4/2	10YR 5/4	5	Sandy clay loam

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☐ Yes ☒ No (Circle)
Wetland Hydrology Present? ☐ Yes ☒ No
Hydric Soils Present? ☒ Yes ☐ No

(Circle)
Is this Sampling Point Within a Wetland? Yes ☒ No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/> Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/> (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 7</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator
1. <u>Quercus Falcata pagodaefolia</u>	<u>C</u>	<u>FACW</u>
2. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>
3. <u>Acer rubrum</u>	<u>C</u>	<u>FAC</u>
4. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>
5. <u>Carpinus caroliniana</u>	<u>S</u>	<u>FAC</u>
6. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACU-</u>
7. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACU+</u>
8. <u>Chasmanthium sessiliflorum</u>	<u>H</u>	<u>FAC</u>

Dominant Plant Species	Stratum	Indicator
9. <u>Carex Sp</u>	<u>H</u>	<u>-</u>
10. <u>Decumaria barbara</u>	<u>V</u>	<u>OBL</u>
11. <u>Toxicodendron radicans</u>	<u>V</u>	<u>FAC</u>
12. _____	_____	_____
13. _____	_____	_____
14. _____	_____	_____
15. _____	_____	_____
16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 73%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake, or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland hydrology Indicators:</p> <p>Primary Indicators:</p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 Inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12"</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p><input checked="" type="checkbox"/> Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Remarks: <u>Depressional area</u></p>

SOILS

DS 7

Map Unit Name (Series and Phase): <u>Airedale Silt Loam</u>		Drainage Class: <u>Poorly drained</u>	
Taxonomy (Subgroup): <u>Typic Ochragualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 3/1	none		Silty Loam
2-12+		10YR 4/1	10YR 5/4	5	Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.) 	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 8</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer rubrum</u>	<u>C</u>	<u>FAC</u>	9. <u>Desmodium illinoense</u>	<u>V</u>	<u>OBL</u>
2. <u>Fraxinus pennsylvanica</u>	<u>C</u>	<u>FACW</u>	10. <u>Toxicodendron radicans</u>	<u>V</u>	<u>FAC</u>
3. <u>Quercus michauxii</u>	<u>C</u>	<u>FACW</u>	11. _____	_____	_____
4. <u>Ulmus americana</u>	<u>S</u>	<u>FACW</u>	12. _____	_____	_____
5. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	13. _____	_____	_____
6. <u>Carpinus caroliniana</u>	<u>S</u>	<u>FAC</u>	14. _____	_____	_____
7. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACW</u>	15. _____	_____	_____
8. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 90%

Remarks: _____

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12" <input checked="" type="checkbox"/> Water-Stained Leaves <input checked="" type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>Depressional Area</u>

SOILS

DS 8

Map Unit Name

(Series and Phase): Acredate Silt LoamDrainage Class: Poorly Drained

Field Observations

Taxonomy (Subgroup): Typic OchragualfsConfirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/1	none		Silty loam
3-12+		10YR 4/1	10YR 5/4	10	Clay loam

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?

☒ Yes

No (Circle)

Wetland Hydrology Present?

☒ Yes

No

Hydric Soils Present?

☒ Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

☒ Yes

No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Both</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 9</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Quercus falcata</u>	<u>pagodaefolia</u>	<u>C</u>	<u>FACW</u>	9. _____	_____
2. <u>Quercus michauxii</u>	<u>C</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Ostrya virginiana</u>	<u>S</u>	<u>FACU-</u>	11. _____	_____	_____
4. <u>Carya ovata</u>	<u>S</u>	<u>FACU-</u>	12. _____	_____	_____
5. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACU+</u>	13. _____	_____	_____
6. <u>Anundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	14. _____	_____	_____
7. <u>Toxicodendron radicans</u>	<u>V</u>	<u>FAC</u>	15. _____	_____	_____
8. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 50%

Remarks: _____

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12" _____ Water-Stained Leaves _____ Local Soil Survey Data _____ FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>No observed Hydrologic Indicators</u>

SOILS

DS 9

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>	
Taxonomy (Subgroup): <u>Typic Ochragualfs</u>		Field Observations Confirm Mapped Type: <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 3/2	none		Sandy Loam
2-5		10YR 4/2	none		Silty Loam
5-14		10YR 4/2	10YR 5/4	3	Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="radio"/> No (Circle) Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="radio"/> No (Circle) Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS10</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Quercus falcata</u>	<u>C</u>	<u>FACW</u>	9. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>
2. <u>Liriodendron tulipifera</u>	<u>C</u>	<u>FACU</u>	10. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>
3. <u>Carya crataegus</u>	<u>C</u>	<u>FACU-</u>	11. _____	_____	_____
4. <u>Fagus grandifolia</u>	<u>S</u>	<u>FACU</u>	12. _____	_____	_____
5. <u>Ostrya virginiana</u>	<u>S</u>	<u>FACU-</u>	13. _____	_____	_____
6. <u>Liquidambar styraciflua</u>	<u>S</u>	<u>FAC</u>	14. _____	_____	_____
7. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACU-</u>	15. _____	_____	_____
8. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACU+</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 30%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available </p>	<p>Wetland hydrology Indicators:</p> <p>Primary Indicators:</p> <p> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands </p> <p>Secondary Indicators (2 or more required):</p> <p> <input type="checkbox"/> Oxidized Root Channels in Upper 12" <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks) </p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Remarks: <u>No observed Hydrologic Indicators</u></p>

SOILS

DS 10

Map Unit Name (Series and Phase): <u>Aczdale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u> Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No			
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>					
Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1		10YR 3/2	none		Sandy Loam
1-3		10YR 4/3	none		Sandy Clay
3-12+		10YR 4/3	10YR 5/4	5	Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No (Circle) Wetland Hydrology Present? Yes <input checked="" type="radio"/> No (Circle) Hydric Soils Present? Yes <input checked="" type="radio"/> No (Circle)	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <u>Yes</u> <u>No</u> Is the site significantly disturbed (Atypical Situation)? <u>Yes</u> <u>No</u> Is the area a potential Problem Area? <u>Yes</u> <u>No</u> (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS II</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carya ovata</u>	<u>C</u>	<u>FACU-</u>	9. _____	_____	_____
2. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Ostrya virginiana</u>	<u>S</u>	<u>FACU-</u>	11. _____	_____	_____
4. <u>Fagus grandifolia</u>	<u>S</u>	<u>FACU</u>	12. _____	_____	_____
5. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACU+</u>	13. _____	_____	_____
6. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACU-</u>	14. _____	_____	_____
7. <u>Parthenocissus quinquefolia</u>	<u>V</u>	<u>FACU</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 142

Remarks: _____

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12" _____ Water-Stained Leaves _____ Local Soil Survey Data _____ FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>No Observed Hydrologic Indicators</u>

SOILS

DS 11

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraguolls</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 3/2	none		Sandy Loam
2-5		10YR 4/2	none		Sandy Loam
5-14+		10YR 5/2	10YR 5/4	5	Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> (Circle) Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Both</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <u>Yes</u> <u>No</u> Is the site significantly disturbed (Atypical Situation)? <u>Yes</u> <u>No</u> Is the area a potential Problem Area? <u>Yes</u> <u>No</u> (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 12</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	9. <u>Smilax rotundifolia</u>	<u>V</u>	<u>FAC</u>
2. <u>Quercus falcata</u>	<u>Sh</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Pinus taeda</u>	<u>C</u>	<u>FAC-</u>	11. _____	_____	_____
4. <u>Carya ovata</u>	<u>S</u>	<u>FACU-</u>	12. _____	_____	_____
5. <u>Ostrya virginiana</u>	<u>S</u>	<u>FACU-</u>	13. _____	_____	_____
6. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACU-</u>	14. _____	_____	_____
7. <u>Chasmanthium sessilifolium</u>	<u>H</u>	<u>FAC</u>	15. _____	_____	_____
8. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 44%

Remarks: _____

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12" _____ Water-Stained Leaves _____ Local Soil Survey Data _____ FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>No Observed Hydrologic Indicators</u>

SOILS

DS 12

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>	
Taxonomy (Subgroup): <u>Typic Ochragualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1		10YR 3/2	none		Sandy Loam
1-4		10YR 4/2	none		Silty Loam
4-12+		10YR 5/1	10YR 5/4	5	Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No (Circle) Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No (Circle) Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-city Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 13</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	9. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>
2. <u>Quercus michauxii</u>	<u>C</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Carpinus caroliniana</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Ostrya virginiana</u>	<u>S</u>	<u>FACU-</u>	13. _____	_____	_____
6. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACU-</u>	14. _____	_____	_____
7. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	15. _____	_____	_____
8. <u>Smilax rotundifolia</u>	<u>V</u>	<u>FAC</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 67%

Remarks: _____

HYDROLOGY

<p>____ Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake, or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland hydrology Indicators:</p> <p>Primary Indicators:</p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 Inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12"</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC-Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Remarks: <u>Depressional area</u></p>

SOILS

DS 13

Map Unit Name (Series and Phase): <u>Acordale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 3/1	none		Sandy Loam
2-12		10YR 4/1	10YR 5/4	ls	Clay Loam

Hydric Soil Indicators:	
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 14</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Quercus falcata pagodaefolia</u>	<u>C</u>	<u>FACW</u>	9. <u>Smilax rotundifolia</u>	<u>V</u>	<u>FAC</u>
2. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Quercus nigra</u>	<u>C</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Carpinus caroliniana</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Acer roburum</u>	<u>S</u>	<u>FAC</u>	13. _____	_____	_____
6. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACW</u>	14. _____	_____	_____
7. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	15. _____	_____	_____
8. <u>Chusmerthium sessiliflorum</u>	<u>H</u>	<u>FAC</u>	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): <u>89%</u>					
Remarks:					

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12" <input checked="" type="checkbox"/> Water-Stained Leaves <input checked="" type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>Depressional area</u>

SOILS

DS 14

Map Unit Name (Series and Phase): <u>Acresdale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u> Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>			

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/2	none		Sandy Loam
3-12+		10YR 4/1	10YR 5/4	5	Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 15</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Quercus falcata pagrobefolia</u>	<u>C</u>	<u>FACW</u>	9. _____	_____	_____
2. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Acer rubrum</u>	<u>C</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Carpinus caroliniana</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	13. _____	_____	_____
6. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACU-</u>	14. _____	_____	_____
7. <u>Chasmanthium sessiliflorum</u>	<u>H</u>	<u>FAC</u>	15. _____	_____	_____
8. <u>Decumina barbara</u>	<u>V</u>	<u>OBL</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 88%

Remarks: _____

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" <input checked="" type="checkbox"/> Water-Stained Leaves ___ Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>Depressional area</u>

SOILS

DS 15

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/2	none		Sandy Loam
3-15+		10YR 4/1	10YR 5/4	10	Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 116</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Pinus taeda</u>	<u>C</u>	<u>FAC-</u>	9. <u>Smilax rotundifolia</u>	<u>V</u>	<u>FAC</u>
2. <u>Quercus michauxii</u>	<u>C</u>	<u>FACW</u>	10. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>
3. <u>Quercus nigra</u>	<u>C</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Fagus grandifolia</u>	<u>S</u>	<u>FACW</u>	12. _____	_____	_____
5. <u>Ostrya virginiana</u>	<u>S</u>	<u>FACW-</u>	13. _____	_____	_____
6. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACW-</u>	14. _____	_____	_____
7. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	15. _____	_____	_____
8. <u>Mitchella Repens</u>	<u>H</u>	<u>FACW</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 40%

Remarks: _____

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12" _____ Water-Stained Leaves _____ Local Soil Survey Data _____ FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>No observed Hydrologic Indicators</u>

SOILS

DS 116

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 3/2	none		Sandy Loam
2-5		10YR 4/2	none		Sandy Loam
5-14 +		10YR 5/1	10YR 5/4	5	Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No (Circle) Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Both</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 17</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Pinus taeda</u>	<u>C</u>	<u>FAC-</u>	9. _____	_____	_____
2. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Carpinus caroliniana</u>	<u>S</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Carya ovata</u>	<u>S</u>	<u>FACW-</u>	12. _____	_____	_____
5. <u>Quercus marilandica</u>	<u>S</u>	<u>UPL</u>	13. _____	_____	_____
6. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACW+</u>	14. _____	_____	_____
7. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	15. _____	_____	_____
8. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 38%

Remarks: _____

HYDROLOGY

<p>___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other <input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland hydrology Indicators:</p> <p>Primary Indicators:</p> <p>___ Inundated</p> <p>___ Saturated in Upper 12 Inches</p> <p>___ Water Marks</p> <p>___ Drift Lines</p> <p>___ Sediment Deposits</p> <p>___ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>___ Oxidized Root Channels in Upper 12"</p> <p>___ Water-Stained Leaves</p> <p>___ Local Soil Survey Data</p> <p>___ FAC-Neutral Test</p> <p>___ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	
<p>Remarks: <u>No Observed Hydrologic Indicators</u></p>	

SOILS

DS 17

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
Depth (inches)	Horizon				
0-2		10YR 3/2	none		Sandy Loam
2-4		10YR 4/2	none		Silty Loam
4-12+		10YR 4/2	10YR 5/4	5	Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Both</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 18</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Quercus falcata pagodifolia</u>	<u>C</u>	<u>FACW</u>	9. <u>Toxicodendron radicans</u>	<u>V</u>	<u>FAC</u>
2. <u>Pinus taeda</u>	<u>C</u>	<u>FAC-</u>	10. <u>Lonicera japonica</u>	<u>V</u>	<u>FAC-</u>
3. <u>Acer rubrum</u>	<u>C</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Carpinus caroliniana</u>	<u>S</u>	<u>FAC</u>	13. _____	_____	_____
6. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACW+</u>	14. _____	_____	_____
7. <u>Fraxinus pennsylvanica</u>	<u>Sh</u>	<u>FACW</u>	15. _____	_____	_____
8. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 702

Remarks: _____

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12" <input checked="" type="checkbox"/> Water-Stained Leaves _____ Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>Depressional area</u>

SOILS

DS 18

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u> Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No			
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>					
Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1		10YR 3/2	none		Sandy loam
1-4		10YR 4/2	10YR 5/4	5	Clay loam
4-14+		10YR 4/1	10YR 5/4	10	Clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: <u>DS 19</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liriodendron tulipifera</u>	<u>C</u>	<u>FACU</u>	9. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>
2. <u>Quercus falcata/pagodaefolia</u>	<u>C</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Quercus michauxii</u>	<u>C</u>	<u>FACW</u>	11. _____	_____	_____
4. <u>Ulmus rubra</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Ostrya virginiana</u>	<u>S</u>	<u>FACU-</u>	13. _____	_____	_____
6. <u>Asterina triloba</u>	<u>Sh</u>	<u>FACU+</u>	14. _____	_____	_____
7. <u>Chasmanthium sessilifolium</u>	<u>H</u>	<u>FAC</u>	15. _____	_____	_____
8. <u>Desmodium illinoense</u>	<u>V</u>	<u>OBL</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 56%

Remarks: Sphagnum moss observed

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12" <input checked="" type="checkbox"/> Water-Stained Leaves _____ Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: _____

SOILS

DS 19

Map Unit Name (Series and Phase): <u>Accredate Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7		10YR 3/1	10YR 5/4	5	clay loam
7-14 +		10YR 4/1	10YR 5/4	10	clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.) 	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 20</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Acer rubrum</u>	<u>C</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Carpinus caroliniana</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACW+</u>	13. _____	_____	_____
6. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	14. _____	_____	_____
7. <u>Toxicodendron radicans</u>	<u>V</u>	<u>FAC</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 86%

Remarks: _____

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: _____ Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12" <input checked="" type="checkbox"/> Water-Stained Leaves _____ Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: _____

SOILS

DS 20

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/2	none		Sandy Loam
3-12+		10YR 4/2	10YR 5/4	10	Sandy Clay Loam

Hydric Soil Indicators:	
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 21</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Quercus falcata</u>	<u>propagata</u>	<u>C FACW</u>	9. _____	_____	_____
2. <u>Liriodendron tulipifera</u>	<u>C</u>	<u>FACU</u>	10. _____	_____	_____
3. <u>Fagus grandifolia</u>	<u>S</u>	<u>FACU</u>	11. _____	_____	_____
4. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Carpinus caroliniana</u>	<u>S</u>	<u>FAC</u>	13. _____	_____	_____
6. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACU-</u>	14. _____	_____	_____
7. <u>Asimina triloba</u>	<u>Sh</u>	<u>FACU+</u>	15. _____	_____	_____
8. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 50%

Remarks: _____

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>No observed Hydrologic Indicators</u>

SOILS

DS 21

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/2	none		Sandy loam
3-5		10YR 4/2	none		Sandy clay loam
5-14 +		10YR 4/2	10YR 5/4	5	Sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No (Circle) Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No (Circle) Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	Is this Sampling Point Within a Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID : _____ Transect ID: _____ Plot ID: <u>DS 22</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liriodendron tulipifera</u>	<u>C</u>	<u>FACW</u>	9. _____	_____	_____
2. <u>Quercus michauxii</u>	<u>C</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Pinus taeda</u>	<u>C</u>	<u>FAC-</u>	11. _____	_____	_____
4. <u>Ostrya virginiana</u>	<u>S</u>	<u>FACW-</u>	12. _____	_____	_____
5. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	13. _____	_____	_____
6. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACW-</u>	14. _____	_____	_____
7. <u>Arundinaria gigantea</u>	<u>H</u>	<u>FACW</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 43%

Remarks: _____

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>No observed Hydrologic Indicators</u>

SOILS

DS 22

Map Unit Name (Series and Phase): <u>Acresdale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u>	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1		10YR 3/2	none		Sandy Loam
1-4		10YR 3/3	none		Sandy Loam
4-14+		10YR 4/2	10YR 5/4	5	Sandy Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No (Circle) Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No (Circle)
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Centerville Property</u> Applicant/Owner: <u>Tri-City Properties, LLC</u> Investigator: <u>Roth</u>	Date: <u>7/25/13</u> County: <u>Chesapeake</u> State: <u>VA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: <u>DS 23</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liquidambar styraciflua</u>	<u>C</u>	<u>FAC</u>	9. <u>Carex glaucescens</u>	<u>H</u>	<u>OBL</u>
2. <u>Quercus Phellos</u>	<u>C</u>	<u>FAC+</u>	10. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC-</u>
3. <u>Carpinus Caroliniana</u>	<u>S</u>	<u>FAC</u>	11. <u>Desmodium illinoense</u>	<u>V</u>	<u>OBL</u>
4. <u>Ostrya virginiana</u>	<u>S</u>	<u>FACW-</u>	12. _____	_____	_____
5. <u>Ostrya virginiana</u>	<u>Sh</u>	<u>FACW-</u>	13. _____	_____	_____
6. <u>Asimina triloba</u>	<u>Sh</u>	<u>FAC+</u>	14. _____	_____	_____
7. <u>Chasmodon sessiliflorus</u>	<u>H</u>	<u>FAC</u>	15. _____	_____	_____
8. <u>Fraxinus pennsylvanica</u>	<u>H</u>	<u>FACW</u>	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): <u>64%</u>					
Remarks:					

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12" <input checked="" type="checkbox"/> Water-Stained Leaves ___ Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	
Remarks:	

SOILS

DS 23

Map Unit Name (Series and Phase): <u>Acredale Silt Loam</u>		Drainage Class: <u>Poorly Drained</u> Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>			

Profile Description:		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
Depth (inches)	Horizon				
0-0.5		10YR 3/2	none		Silty loam
0.5-12+		10YR 4/1	10YR 5/4	20	Clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	